

TES04-107-0194-62-0064 0009 PL

Memorandum

March 17, 1988

Subject: Elliott Shooting Park, Hawthorn, N.J.

From: Dave Lawton, Remedial Project Manager  
Superfund Compliance

To: Ed Skwinski, Regional Health Advisor  
Agency for Toxic Substances and Disease Registry

075B

Site	Elliott Shooting Park
ID	MD980968333
Break	21
Other	3-17-88

The current work at Elliott Shooting Park has been cleaning up lead contamination under EPA oversight. Lead contamination resulted from the deposition of lead shot during the property's former use as a shooting park. Lead shot had been the only contaminant of concern at this site.

Earlier this year EPA collected some offsite samples which were analyzed for metals. These samples were collected in response to information that EPA had received indicating that the shooting park may have at times in the past been larger than its current dimensions. The potential therefore existed for lead contamination to be present in offsite soils beyond the more current smaller dimensions of the shooting park.

Surface soil samples were collected in some of the surrounding residential properties which from review of historical photography and mapping appeared to have been used for shooting. Analytical data has been received on these samples and indicates no lead at levels of concern (maximum concentration 100 mg/kg). However, arsenic was found in several of the samples (maximum concentrations 190 and 200 mg/kg). In addition to a background sample and a duplicate, 4 soil samples were collected and analyzed.

Arsenic had not previously been identified as a contaminant of concern at this site. At this point EPA cannot state whether or not the Elliott Shooting Park would have been the source of the arsenic found in the surface soils of the residential properties. However, in a quick review of the existing data we have on this site, I noted that 200 mg/kg arsenic was reported in one of the samples collected by Paul Doherty (EPA/ENSV) in June 1986. These samples were collected by Paul in order to evaluate the efficacy of the cleanup process underway. Of the five soil samples collected in June 1986 (Sample series BKJ5B), the reported concentrations of arsenic of processed soil and surface soils were 200, 16, 10 and 110 mg/kg. The 200 mg/kg arsenic sample was collected at a holding pile of soil before it was processed onsite to remove lead.

I am reviewing the files on this site for any additional contaminant data we may have in environmental samples. I will also be reviewing references to determine if these concentrations may be within normal ranges for soils in this area.

40164528



SUPERFUND RECORDS

Under the laws under which we operate in the Superfund Program I am required to send this data to the property owners. However, before I do so, I need to know whether or not the reported concentrations of arsenic (as well as the other metals for which data is reported) pose a public health threat. I note that the samples were collected from a neighborhood of single-family residences. I further note that EPA has conducted a ground water use survey and has not found any use of ground water in the area for drinking. The potential for ground water contamination to result was also determined to be quite low because of the hydrogeologic setting and conditions around the site.

Please review the attached data and any additional data on the site that I may subsequently be able to provide to you and advise me whether or not the reported arsenic levels are a public health concern. Via the direct contact route I will need this information when I transmit this data to the owners of the properties from which these samples were collected.

attachment sample data

✓ cc Jill Biesma Jacobs Engineering Group  
Craig Smith Chief SCOM



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7  
25 FUNSTON ROAD  
KANSAS CITY KANSAS 66115

*Dr. Craig Smith*

RECEIVED

MAR 14 1988

Date 3/11/88

SUPERFUND BRANCH

MEMORANDUM

SUBJECT Data Transmittal for Activity # NOP5B  
Site Description Elliott Shooting Park

FROM Robert D Kleopfer Ph D  
Chief, Laboratory Branch, ENSV

TO Robert L Morby  
Chief, Superfund Branch, WSTM

ATTN \_\_\_\_\_

Attached is the data transmittal for the above referenced site

This should be considered a      Partial or ☒ Complete data transmittal  
(completes transmittal of                     ) If you have any questions  
or comments, please contact Dee Simmons at 236-3881

Attachments \_\_\_\_\_

cc Data File

EPA Region VII

Data Qualification Codes

- U - Compound was not detected
- M - Compound was qualitatively identified, however, quantitative value is less than contract required detection limits (CLP data), or value is less than limit of quantitation (EPA data)
- J - Compound was qualitatively identified, however, compound failed to meet all QA criteria and, therefore, is only an estimated value
- I - Analysis attempted, but no results can be reported
- O - Sample lost or not analyzed
- L - Value known to be higher than value reported
- NA I - Sample was not analyzed for this compound

Codes for Flash Point Data

- L - The sample did not ignite or "flash " This is the highest temperature at which the sample was tested It is possible that the material may be ignitable at higher temperatures
- K - The sample did ignite or "flash" at the lowest temperature tested This is usually the ambient temperature at the time of the test It is possible that the material may be ignitable at even lower temperatures

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY, KS 66115

Site Name Elliot Shooting Park  
Location Raytown MO

Site Number  
Site Code

Collected YR 88 MO 01 Day 20 Time 1413 Leader Nobile

Sample Number NOP5B002

SMO # \_\_\_\_\_

Sample Media (circle one)

SOIL DUST RINSATE SEDIMENT, WATER OTHER \_\_\_\_\_

Sample Split (circle one) YES NO

Sample Container Tag Color Preservative Analysis Requested

1-8 oz jar

Total Lead

Depth 0-2" Pan # \_\_\_\_\_ Aliquots 10

Samplers Nobile

COMMENTS OF FIELD PERSONNEL

Site Description 15 feet inside back fence

Address 7514 Maple Lane

Due to small size of yard sample pattern was  
Set out in L shape

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY, KS 66115

Site Name Elliot Shooting Park  
Location Raytown MO

Site Number  
Site Code

Collected YR 88 MO 01 Day 20 Time 1340 Leader Nobile

Sample Number NOP5B003

SMO # \_\_\_\_\_

Sample Media (circle one)

SOIL DUST, RINSATE, SEDIMENT WATER, OTHER \_\_\_\_\_

Sample Split (circle one) YES NO

Sample Container Tag Color Preservative Analysis Requested

1-8 oz jar

Total Lead

Depth 0 2" Pan # \_\_\_\_\_ Aliquots 10

Samplers Nobile

COMMENTS OF FIELD PERSONNEL

Site Description Sample taken 15 feet inside the back fence  
Address 7525 Arlington

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY, KS 66115

Site Name Elliot Shooting Park  
Location Raytown MO

Site Number  
Site Code

Collected YR 88 MO 01 Day 20 Time 1305 Leader Nobile

Sample Number NOP5B004

SMO # \_\_\_\_\_

Sample Media (circle one)

SOIL DUST RINSATE, SEDIMENT WATER, OTHER \_\_\_\_\_

Sample Split (circle one) YES NO

Sample Container Tag Color Preservative Analysis Requested

1-8 oz jar

Total Lead

Depth 0-2' Pan # \_\_\_\_\_ Aliquots 10

Samplers Nobile

COMMENTS OF FIELD PERSONNEL

Site Description Samples Taken along back fence line  
Address 7507 Crescent Drive

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY, KS 66115

Site Name Elliot Shooting Park  
Location Raytown MO

Site Number  
Site Code

Collected YR 88 MO 01 Day 20 Time 1252 Leader Nobile

Sample Number NOP5B005

SMO # \_\_\_\_\_

Sample Media (circle one)

SOIL DUST, RINSATE SEDIMENT, WATER, OTHER \_\_\_\_\_

Sample Split (circle one) YES NO

Sample Container Tag Color Preservative Analysis Requested

1-8 oz jar

Total Lead

Depth 0-2" Pan # \_\_\_\_\_ Aliquots 10

Samplers Nobile

COMMENTS OF FIELD PERSONNEL

Site Description Sample taken along back fence line  
Address 7509 Crescent Drive



FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name Elliot Shooting Park  
Location Raytown MO

Site Number  
Site Code

Collected YR 88 MO 01 Day 20 Time 1252 Leader Nobile

Sample Number NOP5B006D

SMO # \_\_\_\_\_

Sample Media (circle one)

SOIL DUST, RINSATE, SEDIMENT, WATER OTHER \_\_\_\_\_

Sample Split (circle one) YES NO

Sample Container Tag Color Preservative Analysis Requested

1-8 oz jar

Total Lead

Depth 0-2" Pan # \_\_\_\_\_ Aliquots 10

Samplers Nobile

COMMENTS OF FIELD PERSONNEL

Site Description Taken along back fence line  
Duplicate of NOP5B005

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY, KS 66115

Site Name Elliot Shooting Park  
Location Raytown MO

Site Number  
Site Code

Collected YR 88 MO 01 Day 20 Time 1357 Leader Nobile

Sample Number NOP5B007

SMO # \_\_\_\_\_

Sample Media (circle one)

SOIL DUST, RINSATE SEDIMENT, WATER, OTHER \_\_\_\_\_

Sample Split (circle one) YES NO

Sample Container Tag Color Preservative Analysis Requested

1-8 oz jar

Total Lead

Depth 0-2" Pan # \_\_\_\_\_ Aliquots 10

Samplers Nobile

COMMENTS OF FIELD PERSONNEL

Site Description 15 feet inside Back fence

Address 7527 Crescent Court

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY, KS 66115

Site Name Elliot Shooting Park  
Location Raytown MO

Site Number  
Site Code

Collected YR 88 MO 01 Day 20 Time 1500 Leader Nobile

Sample Number NOP5B008

SMO # \_\_\_\_\_

Sample Media (circle one)

SOIL DUST RINSATE, SEDIMENT WATER, OTHER \_\_\_\_\_

Sample Split (circle one) YES NO

Sample Container Tag Color Preservative Analysis Requested

1-8 oz jar

Total Lead

Depth 0-2" Pan # \_\_\_\_\_ Aliquots ~~75~~ DWS

Samplers Nobile

COMMENTS OF FIELD PERSONNEL

Site Description

Background sample  
(on slope below cemetery)  
Sample collected along fence

# ANALYSIS TYPE TOTAL METALS

TITLE ELLIOTTS SHOOTING PARK

LAB EPA REGION VII

SAMPLE REF 64m ANALYST/ENTRY

MATRIX SEDIMENT

METHOD 2001S77

REVIEWER

DATA FILE GM1

UNITS MG/KG

CASE

DATE 03/08/88

		NOF5B002	NOF5B003	NOF5B004	NOF5B005
SILVER	MG/KG	2 0U	2 0U	2 0U	2 0U
ALUMINUM	MG/KG	13000 0	11000 0	11500 0	12000 0
ARSENIC	MG/KG	20 0U	20 0U	22 0	190 0
BARIUM	MG/KG	180 0	190 0	213 0	190 0
BERYLLIUM	MG/KG	1 0U	1 0U	1 0U	1 0U
CADMIUM	MG/KG	1 0U	1.0U	1 0U	1 0U
COBALT	MG/KG	9 0	10 0	9 3	10 0
CHROMIUM	MG/KG	35 0	13 0	12 0	13 0
COPPER	MG/KG	18 0	15 0	18 0	16 0
IRON	MG/KG	17000.0	15000.0	16000 0	16000 0
MANGANESE	MG/KG	770 0	840 0	740 0	910 0
MOLYBDENUM	MG/KG	9 8	7 9	8 4	8 8
NICKEL	MG/KG	17 0	16 0	18 0	19 0
LEAD	MG/KG	36 0	32 0	46 0	88 0
ANTIMONY	MG/KG	10 0U	10 0U	10 0U	10 0U
SELENIUM	MG/KG	20 0U	20.0U	20 0U	20 0U
TITANIUM	MG/KG	N/A	N/A	N/A	N/A
THALLIUM	MG/KG	60 0U	60 0U	60 0U	60 0U
VANADIUM	MG/KG	31 0	29 0	29 0	28 0
ZINC	MG/KG	86 0	140 0	93 0	110 0
CALCIUM	MG/KG	4700 0	4900 0	4600 0	3600 0
MAGNESIUM	MG/KG	2700 0	2200 0	2400 0	2500 0
SODIUM	MG/KG	750 0	760 0	640 0	680 0
POTASSIUM	MG/KG	1600 0	1600 0	1400 0	1500 0

## ANALYSIS TYPE TOTAL METALS

TITLE ELLIOTTS SHOOTING FARM

MATRIX SEDIMENT

UNITS MG/KG

LAB EPA REGION VII

METHOD 2001S77

CASE

SAMPLE PREF GLM ANALYST/ENTRY

GLM REVIEWER

DATE 03/08/88

GLM DATA FILE GM1

		N0F5B006B	N0F5B007	N0F5B008
SILVER	MG/KG	2 0U	2 0U	2 0U
ALUMINUM	MG/KG	13000 0	14000 0	10000 0
ARSENIC	MG/KG	230 0	100 0	20 0U
BARIUM	MG/KG	170 0	200 0	240 0
BERYLLIUM	MG/KG	1 0U	1 0U	1 0U
CADMIUM	MG/KG	1 0U	1 0U	1 0U
COBALT	MG/KG	7 9	16 0	8 8
CHROMIUM	MG/KG	13 0	15 0	9 4
COFFER	MG/KG	17 0	20 0	16 0
IRON	MG/KG	16000 0	18000 0	21000 0
MANGANESE	MG/KG	620 0	1200 0	1900 0
MOLYBDENUM	MG/KG	9 6	10 0	8 2
NICKEL	MG/KG	16 0	22 0	16 0
LEAD	MG/KG	100 0	34 0	30 0
ANTIMONY	MG/KG	10 0U	10 0U	10 0U
SELENIUM	MG/KG	20 0U	20 0U	20 0U
TITANIUM	MG/KG	N/A	N/A	N/A
THALLIUM	MG/KG	60 0U	60 0U	60 0U
VANADIUM	MG/KG	29 0	33 0	28 0
ZINC	MG/KG	120 0	97 0	130 0
CALCIUM	MG/KG	3800 0	4600 0	6300 0
MAGNESIUM	MG/KG	2500 0	2800 0	2000 0
SODIUM	MG/KG	710 0	730 0	850 0
POTASSIUM	MG/KG	1500 0	1600 0	970 0



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7  
25 FUNSTON ROAD  
KANSAS CITY KANSAS 66115

*Handwritten signature/initials*

DATE July 25, 1986

MEMORANDUM

SUBJECT Elliott's Shooting Park, Paytown, Missouri

FROM Charles P. Hensley *CH*  
Chief, EP&R/ENSV

TO Robert L. Morby  
Chief, SPFD/WSTM

RECEIVED

JUL 31 1986

Attached for your review is

- ☐ Data Transmittal
- ☐ Work Plan
- ☐ Trip Report
- ☐ Preliminary Assessment
- ☐ HRS Form with Supporting Documentation
- ☐ Final Report of Site Investigation
- ☒ Interim Status Report

SUPERFUND BRANCH

If you have any questions or comments, please contact Paul Doherty at 236-3888

Attachments

- cc ☐ E&E  
☐ LABO  
☐ EP&R  
☐ TOPE  
☐ RCRA  
☐ SPFD  
☐ EMCM

*Handwritten signature of John C. Wicklund*

John C. Wicklund  
Director ENSV



## ecology and environment, inc.

FAIRWAY WEST OFFICE BLDG 4350 SHAWNEE MISSION PARKWAY SHAWNEE MISSION KS 66205 TEL 913-432 9961

International Specialists in the Environment

### MEMORANDUM

TO Paul Doherty, ARPO  
FROM Clark Gunion, REM/FIT  
DATE July 24, 1986  
SUBJECT Status Report for the soil sampling at Elliott Shooting Park in Raytown, Missouri, TDD# R-07-8604-13

#### I INTRODUCTION

The Elliott Shooting Park operated as a trap and skeet range for over 50 years in the Raytown area. During this period, lead shot accumulated in the soil over much of the park's 30 acres. Commercial mining of the park had periodically removed several tons of lead in the past years. Recent economic hardship caused the park to be foreclosed upon by Boatmens Bank of Raytown. It was learned through anonymous sources that the bank was planning to develop the land containing the park for residential housing. The U.S. Environmental Protection Agency (EPA) became concerned about hazards that residual lead could pose to the public. Taking heed of the EPA's concern, Boatmens Bank hired Burns & McDonnell Engineers-Architects to design a plan to remove the lead. A criterion of 500 parts per million lead in the soil was the clean-up standard set forth by the EPA.

The clean-up work called for by the design was subcontracted to the Kingston Construction Company of Kansas City, Missouri. The Ecology and Environment Field Investigation Team (E&E/FIT) was tasked by the EPA to monitor the clean-up for compliance with the EPA criterion. E&E/FIT has monitored the clean-up operation and collected soil samples for metals analysis and EP toxicity.

#### SITE ACTIVITIES

Kingston Construction Company began clean-up operations on May 29, 1986. The soil to be cleaned up was tilled and placed into a large holding pile. A lead mining machine is currently being used to process the soil and remove the lead. The processed soil is then placed in a separate area for later replacement to the tilled area. Approximately 800 cubic yards of soil have been processed and 60 tons of lead removed. The collected lead remains on-site in 55 gallon drums. Five samples (sample series BKJ5B) were collected from the holding pile, the tilled area, the processed soil and an adjacent property downgradient where some of the lead has migrated via surface

water run-off (see Figure 1) Table 1 below shows the lead concentration in the soil samples collected. Sample #BKJ58004 is well under the criterion of 500 ppm. The other four samples are well over the criterion. With the exception of the unprocessed soil from the holding pile, samples passed EP toxicity. According to 40 CFR Part 261 Subpart C of the Federal Register, lead should not exceed 50 parts per million for the EP toxicity test.

Table 1  
Lead Concentration in Soil Samples  
Collected from Elliott Shooting Park  
June 18, 1986

Sample #	Location	Concentration Lead (ppm)	EP Toxicity Lead (ppm)	Sample Method	Depth	#1 Ali- quots
BKJ58001	Holding pile (unprocessed)	13,000	270	Composite	0-2"	5
BKJ58002	Processed soil	1,600	0.290	Composite	0-2"	5
BKJ58003	Adjacent property	1,300	2.80	Composite	0-2"	5
BKJ58004	West tilled area	190	0.600	Composite	0-2"	5
BKJ58005	North tilled area	15,000	3.40	Composite	0-2"	5

Soil samples were collected in aluminum pans with stainless steel spoons, composited and placed into 8 ounce glass jars. All samples were collected at a depth of 0 to 2 inches and in five aliquots. The samples were delivered to the Region VII lab on June 18, 1986. To date, 59 hours have been used under R-07-8604-13.

#### CONCLUSIONS

The lead mining process has proven to be about 90 percent effective. However, this does not satisfy the requirement of 500 ppm lead set forth by EPA. EPA has requested Boatmens and Burns & McDonnell submit a plan outlining an acceptable clean-up for the park.

For now, the on-site work will continue as originally planned until the submittal of a new plan for clean-up. Kingston Construction is currently running two eight hour shifts on the Elliott site, 6 a.m. to 2:30 p.m. and 2:30 p.m. to 11:00 p.m. Gene Mayfield of Kingston estimates that the current schedule will involve two months of work on-site.



Elliott Shooting Park  
Raytown, Missouri  
Page 3

The lead which has been collected will be sold to TCSR Industries of White Bear, Minnesota. Transportation of the lead will be via Dalor Trucking Company which is owned by TCSR. The lead will be melted and poured into castings used for ballast in industrial equipment.

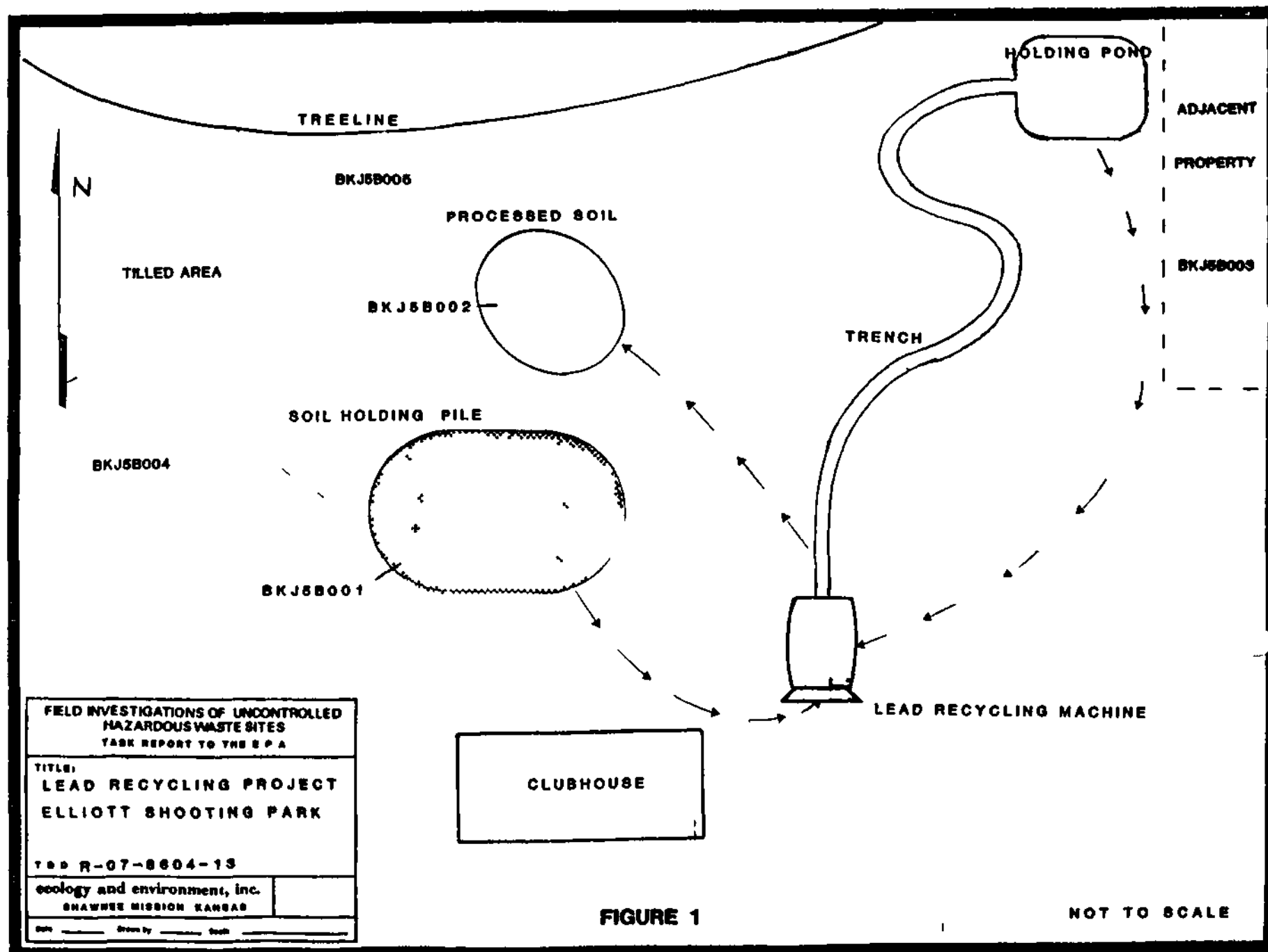


FIGURE 1

NOT TO SCALE

[illegible]



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7  
25 FUNSTON ROAD  
KANSAS CITY KANSAS 66115

DATE June 25, 1986

MEMORANDUM

SUBJECT Elliott's Shooting Park, Paytown, Missouri

FROM Charles P Hensley <sup>RED</sup>  
Chief, EP&R/ENSV for

TO Robert L Morby  
Chief, SPFD/WSTM

Attached for your review is

- ☒ Data Transmittal
- ☐ Work Plan
- ☐ Trip Report
- ☐ Preliminary Assessment
- ☐ HRS Form with Supporting Documentation
- ☐ Final Report of Site Investigation

If you have any questions or comments, please contact Paul Doherty  
at 236-3888

Attachments

cc ☒ E&E

☐ LABO

☐ EP&R

☐ TOPE

☐ RCRA

☐ SPFD

☐ EMC

☐ CDC - Ed Skowronski

/ John C Wicklund  
Director, ENSV

EPA REGION VII  
DATA QUALIFICATION CODES

- U - Compound was not detected
- M - Compound was qualitatively identified however, quantitative value is less than contract required detection limits (CLP data), or value is less than limit of quantitation (EPA data)
- J - Compound was qualitatively identified however, compound failed to meet all QA criteria and therefore is only an estimated value
- I - Analysis attempted but no results can be reported
- O - Sample lost or not analyzed
- L - Value known to be higher than value reported

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD ANCHAS CITY MO 66115

Site Name ELLIOTT SHOOTING PARK  
Location RAYTOWN MO

Site Number 58  
Site Code

Collected YR 86 MO 06 Day 17 Time 0150 Leader GUNION

Sample Number BKJ5B001

SND #

Sample Media (circle one)

SOIL DUST, RINSATE SEDIMENT WATER OTHER

Sample Split (circle one) YES

NO

Sample Container

Tag Color

Preservative

Analysis Requested

80Z JAR

WHITE

ice

TOTAL METALS

CF TOX

Depth -- --

Pan #

Amounts 5

Samplers C. Gunion

COMMENTS OF FIELD PERSONNEL

Site Description

Holding pile of soil before processing  
Interested Grimenby in Lead OK

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name ELLIOTT SHOOTING PARK  
Location RAYTOWN MO

Site Number 5B  
Site Code

Collected YR 86 MO 12 Day 18 Time 0245 Leader GUNION

Sample Number BKJ5B002

SMD #

Sample Media (circle one)

SOIL, DUST, RINSATE SEDIMENT, WATER OTHER

Sample Split (circle one) YES

NO

Sample Container Tag Color Preservative Analysis Requested

80Z JAR

WHITE

112

TOTAL METALS

EP TOX

Depth 0-2

Pan #

Aliquots 5

Samplers P. Deberry

COMMENTS OF FIELD PERSONNEL

Site Description

Processed 3 1 pile

FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name ELLIOTT SHOOTING PARK Site Number 58  
Location RAYTOWN MO Site Code

Collected YR 86 MO 06 Day 18 Time 1230 Leader GUNION

Sample Number BKJ5B003 SMO #

Sample Media (circle one)

SOIL, DUST, RINSATE SEDIMENT, WATER OTHER

Sample Split (circle one) YES NO

Sample Container Tag Color Preservative Analysis Requested  
802 JAR WHITE 111 TOTAL METALS

EP Tox

Depth 0-2 Pan # Aliquots 5

Samplers P. Doherty

COMMENTS OF FIELD PERSONNEL

Site Description NE corner of site near  
health club.



FIELD SHEET  
U S ENVIRONMENTAL PROTECTION AGENCY, REGION VII  
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name ELLIOTT SHOOTING PARK  
Location RAYTOWN MO

Site Number 58  
Site Code

Collected YR 86 MO 06 Day 18 Time 11:00 Leader GUNION

Sample Number BKJ5B005

SMD #

Sample Media (circle one)

SOIL DUST, RINSATE SEDIMENT WATER OTHER

Sample Split (circle one) YES

NO

Sample Container Tag Color Preservative Analysis Requested

802 JAR

WHITE

100

TOTAL METALS

EP TOX

Depth 0-2'

Pan #

Aliquots 5

Samplers C. Gunion

COMMENTS OF FIELD PERSONNEL

Site Description

Center of swamp area, 5  
aliquots in a 20 radius from center



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7  
25 FUNSTON ROAD  
KANSAS CITY KANSAS 66115

June 24, 1986

MEMORANDUM

SUBJECT Analysis of Samples from Elliott Shooting Range (Activity - BKJ58)  
FROM Gerald L. McKinney<sup>CLM</sup>  
Chemist, Laboratory Branch, ENSV  
TO Paul Doherty  
Section Chief, Site Investigation

We have completed the analysis of five samples from the above activity for total and EP metals. Results are attached. Duplicate analysis of the soil on samples -001 and -002 were outside our normal control limits for lead. Due to the heterogeneity of the samples and the high lead values, I recommend the average of the two values be used to calculate % removal in the treatment process.

<u>Sample</u>	<u>Lab #</u>	<u>Pb (mg/kg)</u>	<u>Ave</u>	<u>% Pb Removal</u>
Holding Pile	BKJ58001	13,000	22,500	
Holding Pile	001L	32,000		91
Processed Pile	002	1,600	1,950	
Processed Pile	002L	2,300		

Because of the high values in the raw sample, the poor precision does not significantly alter the % removal. Pellets which appeared to be lead shot were visible in several of the samples. Also, note that arsenic and antimony were observed in these samples, although not at as significant levels as lead.

EP Toxicity data indicated only lead on the holding pile sample met the criteria of a hazardous waste (5mg/l), although some arsenic and antimony was leachable.

Sample -003 was marked as off-site, but was high in several of these metals. Perhaps, resampling may be warranted to verify these results.

## ANALYSIS TYPE TOTAL METALS

TITLE ELLIOTT SHOOTING PARK

S.E. EPA REGION III

SAMPLE REF ~~REP~~ ANALYST/ENTRYGS1  
DAS

MATRIX SEDIMENT

METHOD 2001S77

REVIEWER

GLM

DATE 06 22/8-

## SAMPLE NUMBERS

ELEMENT	UNITS	BJ5B001	BJ5B002	BJ5B003	BJ5B004
SILVER	MG/KG	41	2 U	2 U	2 U
ALUMINUM	MG/KG	15000	14000	15000	15000
ARSENIC	MG/KG	200	22	16	10
BARIUM	MG/KG	250	230	240	310
BERYLLIUM	MG/KG	78	64	76	70
BODIUM	MG/KG	1 U	1 U	1 U	1 U
CALCIUM	MG/KG	14	12	12	11
CHLORINE	MG/KG	12	11	13	13
COPPER	MG/KG	18	15	18	19
IRON	MG/KG	20000	18000	20000	22000
JAPANESE	MG/KG	1000	1300	940	1300
POLYBROMINE	MG/KG	10	8 5	8 8	9 6
SILICEL	MG/KG	22	20	22	28
END	MG/KG	13000	1600	1300	100
ANTIMONY	MG/KG	100	3 6	2 8	1 L
ELENIUM	MG/KG	10 U	10 U	10 U	10 L
ITHEIUM	MG/KG	N/A I	N/A I	N/A I	N/A I
BALTIUM	MG/KG	100 U	100 U	100 U	100 L
WILLIUM	MG/KG	31	27	33	32
INC	MG/KG	23	44	55	55
ALCILM	MG/KG	2800	16000	3700	3500
MAGNESIUM	MG/KG	2800	2500	3000	3200
ODIUM	MG/KG	2 0	520	340	35
OT/SSIUM	MG/KG	1800	1500	1800	1800

# ANALYSIS TYPE TOTAL METALS

TLE ELLIOTT SHOOTING PARK  
B EPA REGION VII  
MFLE PREF *REF* ANALYST/ENTRY

MATRIX SEDIMENT  
METHOD. 200157

GS1  
*MS*

REVIEWER

*CLM*

DATE 06/23 E-

SAMPLE NUMBERS

BAJ55005

ELEMENT	UNITS		
SILVER	MG/KG		2 U
LUMINOUS	MG/KG	14000	
ARSENIC	MG/KG	110	
IRIUM	MG/KG	320	
EFYLLIUM	MG/KG		70
TIMON	MG/KG	1	U
ORALY	MG/KG	11	
ARD IUM	MG/KG	11	
OFFER	MG/KG	21	
ON	MG/KG	22000	
ANGHESE	MG/KG	1100	
OLYBENUM	MG/KG	10	
ICEL	MG/KG	2	
ERI	MG/KG	15000	
ATIMON	MG/KG	33	
ELENIUM	MG/KG	10	U
ATNIUM	MG/KG	N/A	I
ALLIU	MG/KG	100	U
ARMIDIUM	MG/KG	30	
IC	MG/KG	51	
LEIU	MG/KG	3700	
AGRESIUM	MG/KG	3200	
CDILM	MG/KG	30	
OTESIUM	MG/KG	1600	

## ANALYSIS TYPE EF TOXICITY

TITLE ELLIOTT SHOOTING PARK

MATRIX WATER

IS EPA REGION VII

METHOD 2001W77

FILE REF ----- ANALYST/ENTRY

GRS

REVIEWER -----

DATE 06/23/86

SAMPLE NUMBERS

PAJJPJJS

SITE UNITS

101ET	UG/L	105	U
102EXIL	UG/L	205	
103IUI	UG/L	810	
104IUI	UG/L	5	U
105JH.UM	UG/L	10	U
106L	UG/L	3100	
107H	UG/L	50	U

Memorandum

TES04

0194 62-0013  
0011

April 24, 1987

Subject Elliott Shooting Park, Raytown, Mo

From David V Crawford, Site Project Officer SCOM

To Craig Smith, P E chief SCOM

We made a site visit this morning to Elliott Shooting Park to discuss the sampling that will be done by the property owner's contractor (Burns & McDonnell) In addition to myself Mike Clemons, Tetra Tech (our TES IV contractor) and Mary Erio of Burns & McDonnell participated in the site visit

The purpose of the site visit was to determine the adequacy of the number of samples to be collected and the number of aliquots per sample Other concerns also relating to the sampling were also to be discussed The owner wishes to bifurcate the site for purposes of sampling and to confirm that portion of the site have already been cleaned (by the mining and soil removal) and are now safe for development EPA is requiring analytical data to confirm the adequacy of the cleanup

The portion of the site to be released as clean for development is further divided into two subsections, one of which was more contaminated and thus needs more intensive sampling, and the other which was probably never contaminated but for which we still need some data confirming this

Burns & McDonnell had had some questions about our requirements for the sampling plan they will submit I had suggested that we discuss these issues at the site in order that the chances of Burns & McDonnell submitting an approvable plan can be increased

The center portions of the site to be released will be intensively sampled (1 sample per acre, 49 aliquots per sample) Areas on the perimeter consisting of 9 1/2 acres will be less intensively sampled (1 sample for 5 acres and 1 sample for 4 1/2 acres, each acre of this portion of the site was to be have 9 aliquots per acre) At the conclusion of the site visit and after discussion our concerns we made the following recommendations regarding the sampling plan to be submitted

-The number of aliquots on the 9 1/2 acre portion of the site should be increased from 9 per acre to 20 per acre to yield more representative data

-A drainage ditch was noted running partway downhill on the west end of the site A sample of sediments from this ditch should be collected and analyzed for lead Sample should be composited and consist of 10-15 aliquots

-Lead shot was observed on the cent portion of the site to be released after intensive sampling Consideration should be given to scraping off the top few inches of soil herebefore sampling Sampling soil which contains visible lead shot would likely result in analytical data above 500 ppm lead (our cleanup level) Soil scraped off should be mined with the residual soil sent to the landfill for disposal

-Site is not adequately posted to prevent the entry of unauthorized personnel Additional no trespassing signs should be put up  
(to children)

-Accessibility and attractiveness of the holding ponds/settling basins needs to be reduced Ponds are only partially fenced and are accessible from the west Additional and more secure fencing should be considered

-Portions of the samples collected from each acre but not analyzed should be retained in case they need to go back and obtain data on lead levels from specific acres

-EPA must be afforded the opportunity to get splits of samples collected Two to three days notice to me should be provided in order that I can arrange oversight and split collection, if necessary, by Tetra Tech

-A small amount of drainage was noted across the parking lot east of the holding ponds. Water appears to end up in storm sewer along Highway 350 and poses no obvious threat. However at the conclusion of the project sediments via this drainage path will have to be sampled to determine if the deposition of lead-contaminated sediment warrants any sediment removal for disposal in the landfill.

-At the conclusion of the project sediments from the holding basins will probably have to be disposed as lead contaminated or at least sample to confirm the absence of significant levels of contamination.

-Traffic (construction vehicles) on the site will have to be managed and controlled to prevent tracking dirty soil onto the portion of the site already released as clean. In addition the stockpiled processed soil needs to be moved off the portion of the site to be released so runoff does not contaminate released portions of the site. (Could either take this soil to the landfill or move it onto the "dirty" portion of the site.)

-I will need to see if the State has officially approved accepting the residually lead-contaminated soil at the sanitary landfill. Also need to determine if the soil to be sent to the landfill has to be tested for EP toxicity. (However this does not need to be addressed in the sampling plan Burns & McDonnell will submit for releasing part of the site for development.)

Mary Erio took note of our recommendations. I said I would be calling Tom Brown (our principal contact with Burns & McDonnell) with an answer on the need for EP toxicity on soil to go to the landfill. However if Tom has any questions of concerns about our recommendations he should call me.

cc Mike Clemons Tetra Tech  
Gerhardt Braeckel CNSL  
Larry Sheridan WATR  
Tom Brown, Burns & McDonnell

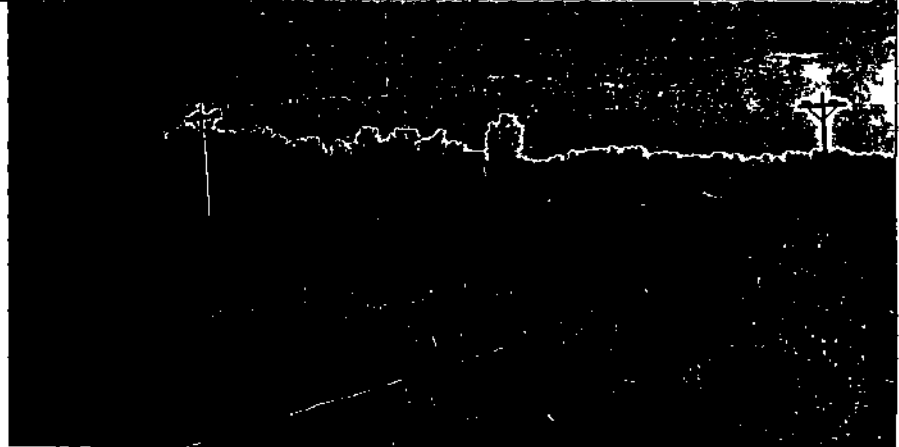
ELLIOT SHOOTING PARK  
RAYTOWN, MO

Site photographs (taken  
April 24, 1987)

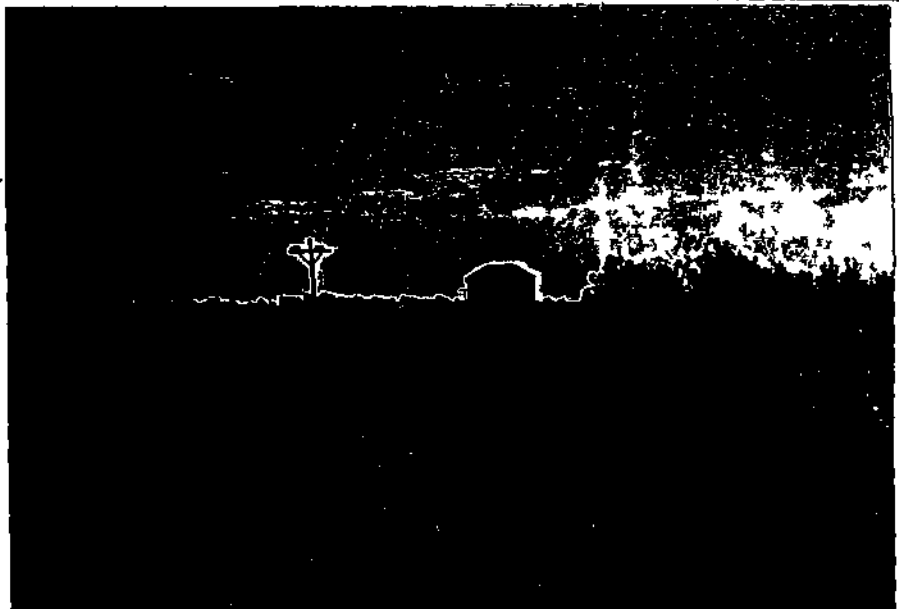
#1- Taken from the center  
of the site looking  
south at the demolished  
shooting park clubhouse



#2- From the edge of the  
site looking in toward  
the center of the site,  
mining machine in center  
of photo and stockpiled  
sludge on right



#3- Stockpiled soil in  
the background, lead  
shot on ground surface  
in the foreground



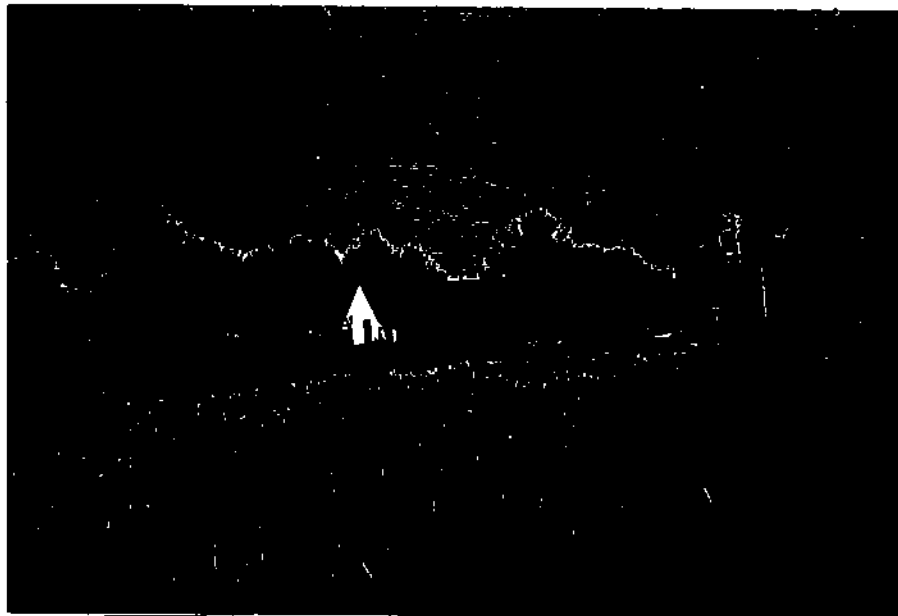
~~Copy to~~ ~~for~~ ~~the~~  
Copy to ~~for~~ the  
Site photos from  
4/24/87. sent to Elliot  
Shooting Park Return  
to me & I'll attach to  
this report memo in  
site file Copy to ONSC  
attached DEC 4/30



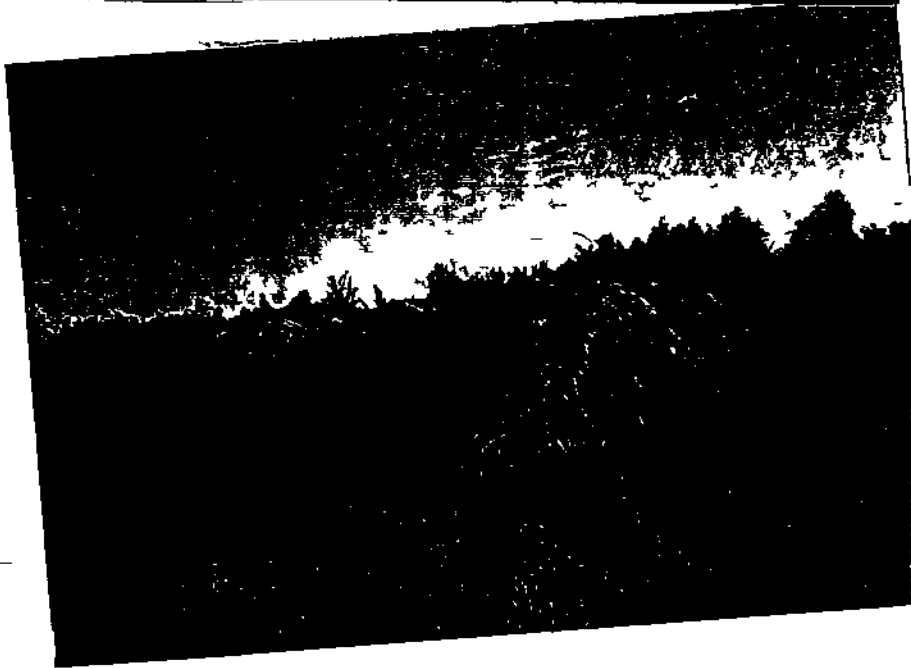
ELLIOTT SHOOTING PARK  
RAYTOWN, Mo

Site Photographs taken  
April 24, 1987

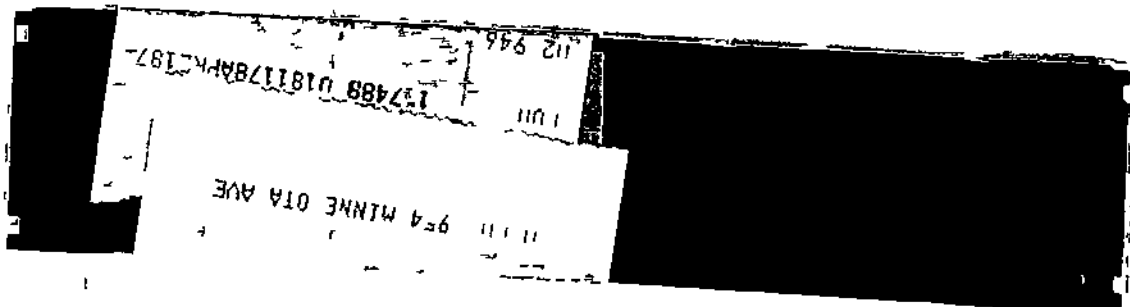
#4- Taken from the center  
of the site looking south,  
abandoned shooting park  
building in the background



#5-Closeup of stockpiled  
soil in the center of the  
site



*Negatives*



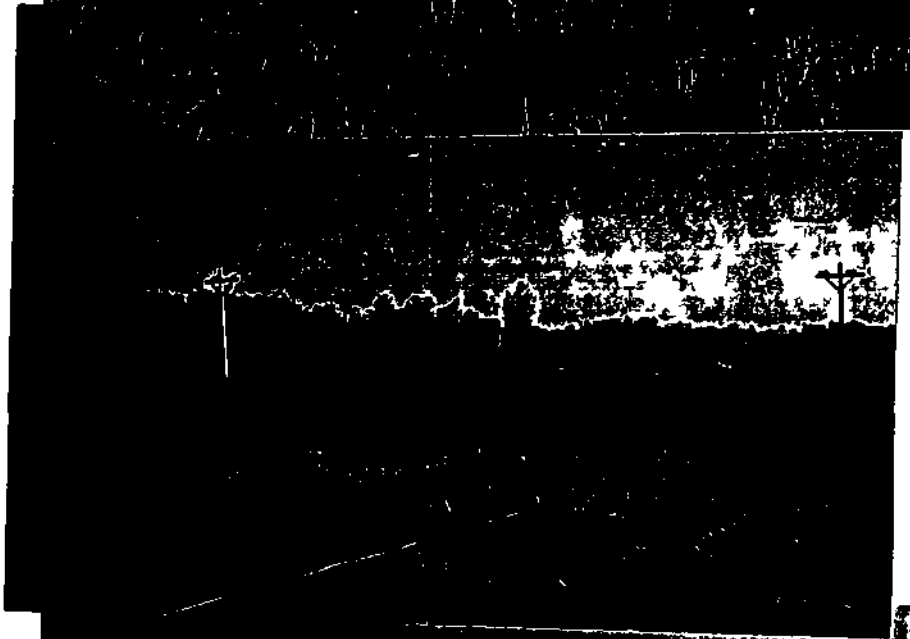
ELLIOT SHOOTING PARK  
RAYTOWN, MO

Site photographs (taken  
April 24, 1987)

#1- Taken from the center  
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south at the demolished  
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the center of the site,  
mining machine in center  
of photo and stockpiled  
sludge on right



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ELLIOTT SHOOTING PARK  
RAYTOWN, Mo

- Site Photographs taken  
April 24, 1987

#4- Taken from the center  
of the site looking south,  
abandoned shooting park  
building in the background



#5-Closeup of stockpiled  
soil in the center of the  
site

- *Only one copy developed of this  
print, attached to original set, sent  
to site file*